REMARKS

Reexamination of this application is respectfully requested.

Claims 1 through 17 and 19 through 26 are pending in the application, with claims 1 through 16 having been withdrawn from consideration, claim 18 cancelled, claims 17 and 19 through 22 amended, and new claims 23 through 26 added.

Claims 17-22 have been objected to because of the presence of grammatical errors. It is respectfully submitted that the above amendments to the claims overcome this objection.

Claims 17-22 have been rejected under the judicially created doctrine of double patenting over claims 1-4 of U.S. Patent No. 6,225,064.

To overcome this rejection, the Applicants are filing herewith a Terminal Disclaimer disclaiming the terminal part of any patent granted on U.S. Patent Application No. 09/842,971 that would expire beyond the expiration of U.S. Patent No. 6,225,064.

Claims 17-22 have been rejected under 35 U.S.C. 102(e) as being anticipated by Matsuzaki et al. (U.S. Patent No. 6,333,179).

Matsuzaki et al. disclose a method for predetermining ratios of primer pairs present in a single reaction vessel so as to achieve an approximately equimolar yield of products. The ratios are determined as a function of the length of the amplicon and the length of other amplicons being simultaneously tested. It is further disclosed that the primers may desirably be for p53 gene sequences.

In the present invention, the difference in the reaction reactivity between primers is eliminated by setting their melting temperatures. Therefore, substantially the same melting temperatures give substantially the same PCR reaction efficiency. See the first full paragraph on page 6 of the specification and the paragraph bridging pages 7 and 8.

Matsuzaki et al. disclose that approximately equimolar yields of amplicons of varying lengths can be easily produced by varying the primer concentrations as a function of the lengths of amplicons (see column 2, line 64 - column3, line 45). Thus, the PCR reaction efficiency is determined by the primer concentration and the length of amplicons.

In the present invention, on the other hand, the PCR reaction efficiency is determined by the melting temperature. See the first full paragraphs on pages 6 and 7 of the specification. Thus, the determining factor for the PCR reaction efficiency is different in the present invention is different from that of the cited art.

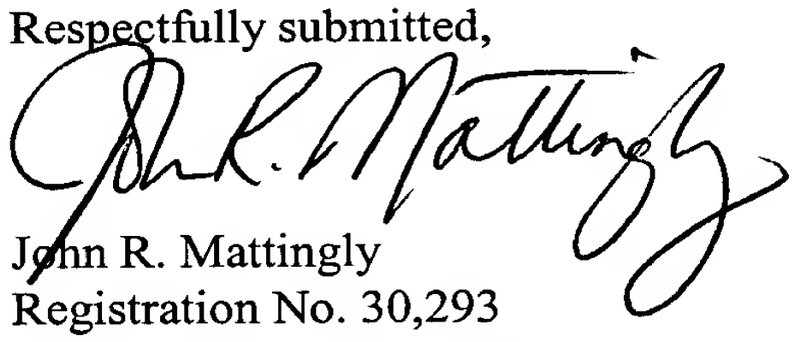
Matsuzaki et al. also disclose, "Preferably, primers having both comparable base composition and comparable melting temperatures are used." (See column 3, lines 56-58). However, primers with SEQ ID No:1 and SEQ ID No:2 in Table 1 of the reference have different melting temperatures, i.e., 79.5° C for SEQ ID No:1 and 85.3° C for SEQ ID No:2, as calculated by Applicants using the Nearest Neighbor method, wherein the melting temperature (T_m) of the hydrogen bond in an oligonucleotide is calculated based on the thermodynamic factor of the nearest neighbor bases. Thus, they are not comparable in a strict sense.

Additionally, new claim 26 has been added to the present application which includes the feature that the lengths of the first and second primers are required to be the same. This is distinct from the teaching of Matsuzaki et al. wherein the lengths may be different.

Accordingly, it is requested that the rejection of claims 17-22 under 35 U.S.C. 102(a) as being anticipated by Matsuzaki et al. be withdrawn.

In view of the foregoing, it is submitted that this application is now in condition for allowance and an early Office Action to that end is earnestly solicited.

Respectfully submitted,



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MARKED UP VERSION OF REWRITTEN CLAIMS

17. (Amended) A method for amplifying nucleic acid comprising the steps of:

preparing a first primer [which has] having a first [sequences] sequence of nucleotides and a first module,

preparing a second primer [which has] having a second [sequences] sequence of [nucleotide] nucleotides and a second module,

amplifying said nucleic acid using said first primer and said second primer with PCR in one vessel,

wherein said first [sequences] sequence of nucleotides is different from said second [first sequences] sequence of nucleotides,

wherein [a] the reaction efficiency of the PCR reaction of said first module and the reaction efficiency of the PCR reaction of said second module [is] are substantially the same because the melting temperature of both said first module and said second module are substantially the same.

18. Cancelled.

19. (Amended) [A] The method [for amplifying nucleic acid according to] of claim 17, wherein said first module and said second module have substantially the same length.

20. (Amended) [A] The method [for amplifying nucleic acid according to] of claim 17, wherein both said first module and said second module [have] comprise a set of modules having the same composition of [nucleotide] nucleotides between said first module and said second module, the order of said modules in said set being different between said first module and said second module.

21. (Amended) A method for amplifying nucleic acid comprising the steps of:

preparing a plurality of primers [which has different] having sequences of nucleotides that are different from each other and having modules of the same melting temperature, and amplifying said plurality of primers with PCR in one vessel.

22. (Amended) [A] The method [for amplifying nucleic acid according to] of claim 21, wherein said modules have the same length and the same composition of [nucleotide] nucleotides.